

IN THE CLAIMS:

Please amend claim 1 as follows.

Please cancel claims 2-74 without prejudice or disclaimer.

Please add claims 75-96 as follows.

1. (Currently Amended) A nonvolatile memory comprising:
a memory cell array including a plurality of memory cells being formed in a matrix;
~~each at least one~~ of the memory cells including a memory thin film transistor and a switching thin film transistor,
wherein said memory thin film transistor comprises:
a first semiconductor active layer over an insulating substrate surface;
a first insulating film;
a floating gate electrode;
a second insulating film;
a control gate electrode,
~~a wiring for connecting the control gate electrode with a first signal line,~~
wherein said switching thin film transistor including:
a second semiconductor active layer over the insulating substrate surface;
a gate insulating film;
a gate electrode ~~connected to a second signal line,~~
~~wherein the memory thin film transistor and the switching thin film transistor are integrally formed over the insulating substrate,~~
wherein the first semiconductor active layer of the memory thin film transistor and the second semiconductor active layer are in a common semiconductor island,
wherein a first thickness of the first semiconductor active layer of the memory thin film transistor is thinner than a second thickness of the second semiconductor active layer of the switching thin film transistor,
~~wherein the first semiconductor active layer of the memory thin film transistor is connected to a third signal line,~~
~~wherein the second semiconductor active layer of the switching thin film transistor is~~

connected to a fourth signal line;

wherein the second signal line is formed between the semiconductor active layers and the first signal line;

wherein the first signal line and the second signal line are perpendicular to the third signal line and the fourth signal line;

wherein the floating gate electrode of the memory thin film transistor, the gate electrode of the switching thin film transistor, the first signal line and the second signal line are formed of a same layer;

wherein the wiring of the memory thin film transistor, the third signal line and the fourth signal line are formed of a same layer; and

wherein a couple of the memory cells adjacent to each other share the fourth signal line therebetween;

wherein the floating gate electrode comprises one of tantalum and tantalum alloy, and

wherein the second insulating film comprises a thermal oxide film of the floating gate electrode.

2-74. (Canceled)

75. (New) A semiconductor device comprising:

a substrate;

a non-volatile memory over the substrate;

a pixel portion over the substrate;

a source wiring driver circuit for driving the pixel portion over the substrate;

a gate wiring driver circuit for driving the pixel portion over the substrate; and

a correction circuit over the substrate.

76. (New) A semiconductor device comprising:

a substrate;

a non-volatile memory over the substrate;

a pixel portion;

a source wiring driver circuit for driving the pixel portion over the substrate;

a gate wiring driver circuit for driving the pixel portion over the substrate; and
a memory controller circuit over the substrate for controlling the non-volatile memory circuit.

77. (New) A semiconductor device comprising:

a substrate;

a non-volatile memory over the substrate;

a pixel portion over the substrate;

a source wiring driver circuit for driving the pixel portion over the substrate;

a gate wiring driver circuit for driving the pixel portion over the substrate; and

a correction circuit over the substrate,

wherein the non-volatile memory comprises a plurality of memory cells,

wherein at least one of the memory cells comprises:

a memory thin film transistor; and

a switching thin film transistor,

wherein said memory thin film transistor comprises:

a first semiconductor active layer over a first insulating film;

a floating gate electrode;

a second insulating film; and

a control gate electrode,

wherein said switching thin film transistor comprises:

a second semiconductor active layer;

a gate insulating film; and

a gate electrode,

wherein the first semiconductor active layer of the memory thin film transistor and the second semiconductor active layer are in a common semiconductor island.

78. (New) A semiconductor device comprising:
- a substrate;
 - a non-volatile memory over the substrate;
 - a pixel portion;
 - a source wiring driver circuit for driving the pixel portion over the substrate;
 - a gate wiring driver circuit for driving the pixel portion over the substrate; and
 - a memory controller circuit over the substrate for controlling the non-volatile memory circuit,
- wherein the non-volatile memory comprises a plurality of memory cells,
- wherein at least one of the memory cells comprises:
- a memory thin film transistor; and
 - a switching thin film transistor,
- wherein said memory thin film transistor comprises:
- a first semiconductor active layer over a first insulating film;
 - a floating gate electrode;
 - a second insulating film; and
 - a control gate electrode,
- wherein said switching thin film transistor comprises:
- a second semiconductor active layer;
 - a gate insulating film; and
 - a gate electrode,
- wherein the first semiconductor active layer of the memory thin film transistor and the second semiconductor active layer are in a common semiconductor island.
79. (New) A semiconductor device comprising:
- a substrate;
 - a non-volatile memory over the substrate;
 - a pixel portion over the substrate;
 - a source wiring driver circuit for driving the pixel portion over the substrate;
 - a gate wiring driver circuit for driving the pixel portion over the substrate; and
 - a correction circuit over the substrate,

wherein the non-volatile memory comprises a plurality of memory cells,
wherein at least one of the memory cells comprises:

- a memory thin film transistor; and
- a switching thin film transistor,

wherein said memory thin film transistor comprises:

- a first semiconductor active layer over a first insulating film;
- a floating gate electrode;
- a second insulating film; and
- a control gate electrode,

wherein said switching thin film transistor comprises:

- a second semiconductor active layer;
- a gate insulating film; and
- a gate electrode,

wherein the first semiconductor active layer of the memory thin film transistor
and the second semiconductor active layer are in a common semiconductor island,

wherein a first thickness of the first semiconductor active layer of the memory
thin film transistor is thinner than a second thickness of the second semiconductor
active layer of the switching thin film transistor.

80. (New) A semiconductor device comprising:

- a substrate;
- a non-volatile memory over the substrate;
- a pixel portion;
- a source wiring driver circuit for driving the pixel portion over the substrate;
- a gate wiring driver circuit for driving the pixel portion over the substrate; and
- a memory controller circuit over the substrate for controlling the non-volatile
memory circuit,

wherein the non-volatile memory comprises a plurality of memory cells,

wherein at least one of the memory cells comprises:

- a memory thin film transistor; and
- a switching thin film transistor,

wherein said memory thin film transistor comprises:

- a first semiconductor active layer over a first insulating film;
- a floating gate electrode;
- a second insulating film; and
- a control gate electrode,

wherein said switching thin film transistor comprises:

- a second semiconductor active layer;
- a gate insulating film; and
- a gate electrode,

wherein the first semiconductor active layer of the memory thin film transistor and the second semiconductor active layer are in a common semiconductor island, and

wherein a first thickness of the first semiconductor active layer of the memory thin film transistor is thinner than a second thickness of the second semiconductor active layer of the switching thin film transistor.

81. (New) A semiconductor device according to claim 77,

wherein the floating gate electrode comprises one of tantalum and tantalum alloy, and

wherein the second insulating film comprises a thermal oxide film of the floating gate electrode.

82. (New) A semiconductor device according to claim 78,

wherein the floating gate electrode comprises one of tantalum and tantalum alloy, and

wherein the second insulating film comprises a thermal oxide film of the floating gate electrode.

83. (New) A semiconductor device according to claim 79,
wherein the floating gate electrode comprises one of tantalum and tantalum alloy, and
wherein the second insulating film comprises a thermal oxide film of the floating gate electrode.
84. (New) A semiconductor device according to claim 80,
wherein the floating gate electrode comprises one of tantalum and tantalum alloy, and
wherein the second insulating film comprises a thermal oxide film of the floating gate electrode.
85. (New) A device according to claim 75,
wherein the semiconductor device is one selected from the group consisting of a liquid crystal display device and an EL display device.
86. (New) A device according to claim 76,
wherein the semiconductor device is one selected from the group consisting of a liquid crystal display device and an EL display device.
87. (New) A device according to claim 77,
wherein the semiconductor device is one selected from the group consisting of a liquid crystal display device and an EL display device.
88. (New) A device according to claim 78,
wherein the semiconductor device is one selected from the group consisting of a liquid crystal display device and an EL display device.

89. (New) A device according to claim 79,
wherein the semiconductor device is one selected from the group consisting of a liquid crystal display device and an EL display device.
90. (New) A device according to claim 80,
wherein the semiconductor device is one selected from the group consisting of a liquid crystal display device and an EL display device.
91. (New) A device according to claim 75,
wherein the semiconductor device is one selected from the group consisting of a display, a video camera, a head-mounted type display, a DVD display, a goggle type display, a personal computer, a portable telephone, and a car audio.
92. (New) A device according to claim 76,
wherein the semiconductor device is one selected from the group consisting of a display, a video camera, a head-mounted type display, a DVD display, a goggle type display, a personal computer, a portable telephone, and a car audio.
93. (New) A device according to claim 77,
wherein the semiconductor device is one selected from the group consisting of a display, a video camera, a head-mounted type display, a DVD display, a goggle type display, a personal computer, a portable telephone, and a car audio.
94. (New) A device according to claim 78,
wherein the semiconductor device is one selected from the group consisting of a display, a video camera, a head-mounted type display, a DVD display, a goggle type display, a personal computer, a portable telephone, and a car audio.

95. (New) A device according to claim 79,

wherein the semiconductor device is one selected from the group consisting of a display, a video camera, a head-mounted type display, a DVD display, a goggle type display, a personal computer, a portable telephone, and a car audio.

96. (New) A device according to claim 80,

wherein the semiconductor device is one selected from the group consisting of a display, a video camera, a head-mounted type display, a DVD display, a goggle type display, a personal computer, a portable telephone, and a car audio.